

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 63-180907

(43)Date of publication of application : 26.07.1988

(51)Int.Cl.

G02B 6/00
C08F 20/12
C08F 20/12
D01F 8/10

(21)Application number : 62-011224

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(22)Date of filing : 22.01.1987

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(54) OPTICAL FIBER

(57)Abstract:

PURPOSE: To improve the flexibility, workability, and heat resistance, etc. of optical fiber by constituting a shell component of the optical fiber of a polymer consisting primarily of a specified methacrylic ester in the ester moiety and having a specified refractive index.

CONSTITUTION: The optical fiber is constituted of a plastic material comprising a raw material having good transparency as the core component and ester moiety consisting primarily of polymer constituted of methacrylic ester having $\geq 6\text{C}$ cycloaliphatic hydrocarbon group and having by ≥ 0.01 smaller refractive index than the refractive index of the material or the core component. Particularly, when a mixture of methacrylic esters comprising fluorinated alkyl methacrylate, methyl methacrylate, and cycloaliphatic hydrocarbon group in the ester moiety in an appropriate proportion, particularly in the proportion for constituting azeotropic polymer, are copolymerized in accordance with the proportion of the constituting monomers to prepare the polymer and the polymer is used for the shell material, superior transparency of optical fiber is maintained and the flexibility, workability, and the heat resistance are improved.